

### Abstract

A novel polypeptide useful in screening an insulin resistance improving agent and a carbohydrate metabolism improving agent, a polynucleotide coding for the  
5   aforementioned polypeptide, an expression vector comprising the aforementioned polynucleotide, and a cell transfected with the aforementioned expression vector are disclosed. The aforementioned polypeptide is a protein which is expressed in fat, and the activity of Akt2 is reduced in a  
10   fat cell in which the protein is highly expressed.

A method for screening an insulin resistance improving agent and a carbohydrate metabolism improving agent using the aforementioned polypeptide, and a method for producing a pharmaceutical composition for insulin  
15   resistance improvement and carbohydrate metabolism improvement, which uses a substance obtained by said screening method as the active ingredient, are disclosed.